parts from one animal to another point clearly in the same direction, namely, the impossibility of any mechanistic explanation. The procedure has in many cases taken the form of snipping a bit, such as a limb-bud, from some part of an embryo and planting or grafting it upon the corresponding or other part of another embryo, generally one of the same species. In the successful cases the graft lives and grows, taking one of two courses : either it continues along the line of growth along which it had already made some progress (if, for example, it was a fairly advanced limb-bud, it may continue to develop into a limb, even though planted in some part of the host where it must be functionless and where it is subject to neighbourhood influences which must be very different from those which would normally have beset it), or, on the other hand, the graft may become transformed and grow up into the kind of tissue and organ appropriate to that part of the host on which it is grafted. And the general rule seems to be that the younger the graft, the more likely is it that the result will be of the second kind ; and the older, the more advanced the development and differentiation of the graft, the more likely is it to persist in its own line of development in spite of its new surroundings.

These results of grafting present difficulties that must be insuperable for the mechanical theory. I remind the reader again that it seems now to be pretty generally established that the genes (which the geneticists tell us are the specific factors determining the

development of all the specific features of the adult organism, in response, of course, to due environmental influences, which, however, may vary within wide limits without disturbing the normal course of development), throughout all stages